

REMARKS

Drawings

The objection to the drawings in paragraph 1 is respectfully traversed in view of the amendment to the specification. Reference numerals 10 and 110 are referred to in paragraph 37. Reference numeral 155 is referred to in paragraph 42.

The objection to the drawings in paragraph 2 is respectfully traversed in view of the amendment to the specification. Paragraph 43 has been amended to indicate that the numeral 130 refers only to the vertical transistor, which is denoted schematically by the dotted oval in Fig. 6B. Also, the reference numeral 132 refers to the buried strap, which has the electrical function of the lower electrode of the vertical transistor.

The objection to the disclosure in paragraph 3 is respectfully traversed. Paragraph 43 has been amended to refer to Figure 4.

The objection to the disclosure in paragraph 4 is respectfully traversed. Paragraph 43 has also been amended to provided the antecedent for performing the bottle etch preceding the step of depositing the filler material.

The objection to the claims in paragraph 5 is respectfully traversed.

Claims 4 and 12 have been amended to change “heating” to ‘annealing’.

The rejection in paragraph 7 of claims 4, 17, 19-20 under 35 USC 112 is respectfully traversed. Claims 4 and 17 have been amended accordingly.

Claim Rejections - 35 USC 102

The rejection of claims 1-2, 14-15 under 35 USC 102 over Shrems is respectfully traversed. Claims 1 and 14 have been amended to require that the filler material have a molecular weight of greater than 1,000 and be deposited by a spin-on process. Support is provided in paragraphs 28 and 29.

This limitation distinguishes the Shrems reference, which uses a conventional polysilicon filler.

Similarly, the rejection of claims 1-2, 11, 14 - 15 under 35 USC 102 over Lutzen is respectfully traversed.

As the examiner has stated in paragraph 10, Lutzen shows a polysilicon filler.

Similarly, the rejection of claims 1, 5 under 35 USC 102(e) over Tews is respectfully traversed.

Tews also shows a polysilicon filler, as the examiner has pointed out in paragraph 11.

Rejection under 35 USC 103

The rejection in paragraph 13 of claim 6 under 35 USC 103 is respectfully traversed.

As amended, Lutzen no longer anticipates claim 2. Further, nitride is not a high-k material, which is conventionally defined in the field as a material having a dielectric constant greater than that of nitride or oxide.

In particular, the term high-k is defined in the spec in paragraph 44 as the listed materials and their silicides.

The rejection in paragraph 14 of claims 12, 13 under 35 USC 103 is respectfully traversed.

As amended, Lutzen no longer anticipates claims 1, 11. Applicants readily agree that LPCVD is known, but the amendment to claim 1 renders this moot.

Allowable Claims

The indication of allowability of claims 3, 7-10, 16, 18 is noted with

appreciation. Claims 3, 8 and 9 have been amended to incorporate the limitations of claim 1 and any intervening claims.

Claims 17, 19 and 20 also depend on claim 16 and are therefore also allowable.

Applicants have amended claims 1 and 14 to require that the filler material is deposited by a spin-on process and has a high molecular weight. Applicants maintain that this two-step process is patentable over the references, which show a conventional step of depositing the conductive center electrode, recessing it, etc.

For the foregoing reasons, allowance of the claims is respectfully solicited.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Eric W. Petraske", is written over a horizontal line.

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